

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 87-043
NPDES NO. CA 0029076

WASTE DISCHARGE REQUIREMENTS FOR:

FMC CORPORATION
PHOSPHORUS CHEMICALS DIVISION
NEWARK, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. FMC Corporation, Phosphorus Chemicals Division, hereinafter called the discharger, by application dated January 16, 1987, has applied for reissuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger manufactures phosphoric acid by burning elemental phosphorus, and phosphate products by processing phosphoric acid, sodium carbonate and potassium hydroxide. The facility includes the distribution of hydrogen peroxide. The discharger currently discharges approximately 0.07 million gallons per day (mgd) of wastewater primarily consisting of cold-side cooling tower and boiler blowdown water, some water softening and deionization brines and stormwater runoff. All wastewater is discharged into a ditch via a pond which is also part of a pH adjustment system. Treated wastewater travels about four thousand feet in the ditch prior to entering Plummer Creek, a tributary to South San Francisco Bay. This water ultimately discharges into the San Francisco Bay National Wildlife Refuge.
3. The discharger is currently treating ethylene dibromide (EDB) contaminated groundwater by extracting water from a Newark aquifer extraction well at this site. The extracted water is treated by carbon absorption and re-injected, together with potable water, as required, to the Newark aquifer. This treated water has been determined to be non-hazardous by the Department of Health Services. The discharger proposes to have the option to discharge treated well water to the pond prior to the Parshall flume. Also, the discharger proposes to have the option to discharge any treated well water from the shallow aquifer. The current average recharge discharge rate is 0.018 mgd and the maximum capacity is 0.144 mgd.
4. The Regional Board adopted a Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for Plummer Creek and South San Francisco Bay.

5. The beneficial uses of Plummer Creek and South San Francisco Bay are:
 - a. Industrial Service Supply
 - b. Navigation
 - c. Water Contact Recreation
 - d. Non-contact Water Recreation
 - e. Commercial and Sport Fishing
 - f. Wildlife Habitat
 - g. Rare and Endangered Species Habitat
 - h. Marine Habitat
 - i. Fish Migration
 - j. Fish Spawning (potential)
 - k. Shellfish Harvesting
6. The Basin Plan prohibits discharge of any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of 10:1 and also prohibits discharge of such wastewater south of the Dumbarton Bridge. The Board finds that the proposed discharge does not have particular characteristics of concern, provided the discharge limitations contained in this Order are met.
7. The discharge is presently governed by Waste Discharge Requirements, Order No. 76-31, whichs allow discharge into Plummer Creek and South San Francisco Bay. Order No. 85-113 prescribes waste discharge requirements for a site remedial action program.
8. Effluent limitations and toxic effluent standards established pursuant to Sections 301, 304, and 307 of the Clean Water Act, and amendments thereto are applicable to the discharge.
9. Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) for this point source discharge have not been promulgated by the U.S. Environmental Protection Agency. Effluent limitations of this Order are based on the Basin Plan, State plans and policies, current plant performance, and best professional judgement. The limitations are considered to be those attainable utilizing BAT, in the judgement of the Board.
10. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
11. The Board has notified the discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and

recommendations.

12. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that, FMC Corporation, Phosphorus Chemicals Division, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following.

A. Discharge Prohibitions

1. The discharge of all process wastes is prohibited. The discharge shall be limited to noncontact cooling water, boiler blowdown water, water softening regeneration brines, treated water from the EDB remedial measures program extraction/treatment system and deionizer regeneration brines from the hydrogen peroxide distribution center, and stormwater runoff from the process and material transfer areas of the plant.
2. The discharge of wastewater from tank washing and any pipe flushing operations to waters of the State is prohibited.
3. The discharge of phosphates and phosphate products, except as allowed for in this permit, solvents or products of petroleum origin to waters of the State is prohibited. Any spills of such materials shall be promptly cleaned up and prevented from mixing with precipitation runoff which discharge into waters of the State.
4. Chemicals used in any of the cooling towers for the purposes of algae control and/or corrosion and deposition inhibition shall not contain zinc, chromium or other heavy metal constituents.
5. The first 50,000 gallons of drainage from the first major rainfall event of the wet weather season, including stormwater runoff, from process or material transfer areas of the plant shall be contained but may be discharged upon documentation that the effluent limitations are met.

B. Effluent Limitations

1. The discharge of an effluent in excess of the following is prohibited:

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>Maximum Daily</u>
Total Phosphorus (as P)	mg/l	100	400
Settleable Matter	ml/l-hr	0.2	1.0

2. The effluent shall not contain ethylene dibromide, (EDB) in detectable concentrations, as defined in Order No. 85-113. The discharger may demonstrate compliance with this limitation in the carbon treatment system effluent line.
3. The effluent shall not have a pH of less than 6.5 nor greater than 8.5.
4. In any representative set of samples, the waste as discharged shall meet the following limit of quality:

TOXICITY:

The survival of test fishes in 96 hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.

Compliance bioassays shall be performed using two test fish species in parallel tests. One shall be three-spined stickleback, and the other shall be either rainbow trout or fathead minnows.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels

created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved Oxygen 5.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. pH Variation from natural ambient pH by more than 0.2 pH units.
3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions


1. The requirements prescribed by this Order supercede the requirements prescribed by Order No. 76-31 adopted on April 20, 1976. Order No. 76-31 is hereby rescinded.
2. The discharger shall comply with all sections of this Order immediately upon adoption.
3. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

$$\text{Mass Emission Limit in kg/d} = \text{Concentration Limit in mg/l} \times 3.79 \times \text{Actual Flow in mgd averaged over the time interval to which the limit applies.}$$
4. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
5. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for

considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

6. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulations (40 CFR 122.41K).
7. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated December 1986 except General Reporting Requirement C.11.
8. Pursuant to Environmental Protection Agency regulations (40 CFR 122.42(a)) the discharger must notify the Regional Board as soon as it knows or has reason to believe that a discharge of a pollutant not limited by this permit has or will occur.
9. This order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing provided the Regional Administrator of the U.S. Environmental Protection Agency has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.
10. This Order expires on May 19, 1992. The discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9, of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 20, 1987.


ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions & Reporting
Requirements dated December 1986
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

FMC CORPORATION
PHOSPHORUS CHEMICALS DIVISION
NEWARK, ALAMEDA COUNTY

NPDES NO. CA 0029076

ORDER NO. 87-043

CONSISTS OF

PART A

AND

PART B

Part B

I. DESCRIPTION OF SAMPLING STATIONS

A. EFFLUENT

Station	Description
E-1	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present.
GT-1	Carbon treatment system effluent line.

B. RECEIVING WATERS

Station	Description
C-1	At a point in Plummer Creek, located approximately 200 feet downstream from the point of discharge.

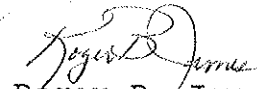
II. SCHEDULE OF SAMPLING, MEASUREMENT, AND ANALYSES

- A. The Schedule of Sampling, Measurement, and Analyses is given in Table I.
- B. Reports shall be submitted monthly and filed no later than the fifteenth day of the following month.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 87-043.
2. Does not include the following paragraphs of Part A:
D.1.a., D.2.g., D.3.a., 5., E.3., E.4., F.3., and F.5.
3. Is effective on the date shown below.

4. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger.


Roger B. James
Executive Officer

MAY 22, 1987
Date Ordered

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-1	E-1	C-1	GT-1								
TYPE OF SAMPLES	G	C	G	G								
Flow Rate (mgd)	D	D										
Settleable Matter (ml/l-hr)	D											
Total Phosphate (as P) mg/l		W										
Fish Toxicity 96-hr (%)		2/Y										
pH	cont.		M									
Ethylene Dibromide (EDB) (ug/l)				2W								
Dissolved Oxygen (mg/l & saturation)	2W		M									
Turbidity (JTU)	2W		M									

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
 C-24 = composite sample - 24-hour
 C-X = composite sample - X hours
 (used when discharge does not
 continue for 24-hour period)
 Cont = continuous sampling
 DI = depth-integrated sample
 BS = bottom sediment sample
 O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
 A = treatment facility influent stations
 E = waste effluent stations
 C = receiving water stations
 P = treatment facilities perimeter stations
 L = basin and/or pond levee stations
 B = bottom sediment stations
 G = groundwater stations

FREQUENCY OF SAMPLING

E = each occurrence
 H = once each hour
 D = once each day
 W = once each week
 M = once each month
 Y = once each year

2/H = twice per hour
 2/W = 2 days per week
 5/W = 5 days per week
 2/M = 2 days per month
 2/Y = once in March and
 once in September
 Q = quarterly, once in
 March, June, Sept.
 and December

2H = every 2 hours
 2D = every 2 days
 2W = every 2 weeks
 3M = every 3 months
 Cont = continuous